MALYUTIN, D. G. PA 61/49T6

USSR/Agriculture Jun 49
Soil Science

"Mineral Solonetz in the Hills of Khakassa," D. G. Malyutin, 3 pp

"Pochvoved" No 6

Irrigation, particularly when accompanied by reforestation, is effecting the transformation of the soil of the Abakan steppes to "chestnut brown," and solonetz is disappearing. Four progressive stages are given in the development, and it is claimed that retrogression has not been observed in this area.

61/49T6

MALYUTIN, A.V., kand. tekhn. nauk; MAKAROV, I.N., kand. tekhn. nauk

Overall mechanization and automation of a forge shop. Mekh. i avtom. proizv. 19 no.4:1-7 Ap '65. (MIRA 18:6)

MALYUTIN, A.A.

DRANKIN, D.I.; MALYUTIN, A.A.

Reactions following vaccination against brucellosis with living dry vaccine. Zhur.mikrobiol.epid. i immun. no.11:21-24 N '55. (MLRA 9:1)

1. Iz kafedry infektsionnykh bolezney (zav.-dotsent V.P.Golger) Chkalovskogo meditsinskogo instituta i Chkalovskoy oblastnoy protivobrutselleznoy stantsii (glavnyy vrach A.V.Tselyukin)

(VACCINES AND VACCINATION,
brucellosis, postvacc. reactions after use of living dry vaccine)

(BRUCELLOSIS, prevention and control,
vacc., postvacc.reactions after use of living dry vaccine)

MALYUTIN, A. (g.Barnaul)

We are expanding the work of sanitariums. Okhr.truda i sots. strakh. no.9:51 S '59. (MIRA 13:1)

1. Zaveduyushchiy otdelom sotsial'nogo strakhovaniya Altayskogo kraysovprofa.
(Belokurikha--Labor rest homes)

L 33755-66

ACC NR: AP6016054

saturation of the lux-ampere characteristics with increase in illuminance indicate an adherence of minority carriers, 4) the photoconductivity spectrum shifts to the long-wave side and the photocurrent abruptly increases with decrease in temperature, and 5) the temperature dependence of the absorption coefficient indicates that the absorption edge shifts to the short-wave side during the cooling of the crystal. These results practically agree with those obtained by M. Zavetova (Chekh. fizichn. zh., 14, 615, 1964). The authors thank G. G. Tsybuli for carrying out the measurements. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 17Feb66/ ORIG REF: 007/ OTH REF: 002

Card 2/2 BLG

L 33755-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AP6016054 (A) SOURCE CODE: UR/0185/66/011/005/0572/0574

AUTHOR: Lashkar'ov, V. Ye.; Malyutenko, V. K.; Rarenko, I. M.; Romanov, V. O.

ORG: Institute of Semiconductors AN UkrSSR, Kiev (Instytut napivprovidnykiv AN UkrSSR); Chernovtsy State University (Chernivets'kyy derzhuniversytet)

TITLE: Photoelectric properties of cadmium antimonide

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 5, 1966, 572-574

TOPIC TAGS: photosensitivity, photoelectric property, cadmium compound, antimonide, photoconductivity, crystal, tellurium, crystal impurity, photoresistance, absorption coefficient, absorption edge, minority carrier, carrier lifetime, temperature dependence

ABSTRACT: The photoelectric properties of N-type CdSb crystals with Te impurities were investigated because the subject has been inadequately researched. The experimental results show that 1) the photoconductivity of the crystals at temperatures from 77 to 130 K is monopolar and the nonequilibrium carriers have substantially different lifetimes, 2) the lifetime of the nonequilibrium holes does not exceed 10^{-7} sec, 3) the temperature dependence of the electron lifetime, the drastic decrease in the electron lifetime with illumination from the self-excitation region, and the

Card 1/2

L 18758-66
ACC NR: AP6003763

of the photoconductivity time $\tau_\sigma(\omega) = RC$, where R and C are the parameters of the compensating cell of the alternating photocurrent bridge. The calculation of the frequency dependence of the photoconductivity time is based on an earlier paper by the author (with E. I. Rashba et al., ZhETF v. 28, 1853, 1958) under the assumption that the recombination in the semiconductor proceeds only via a single recombination level, the light is strongly absorbed, and no charges accumulate on the surface of the semiconductor. It is found that at low radiation-modulation frequencies the photoconductivity lifetime is independent of the frequency and is equal to the electron-state lifetime. In the case of high modulation frequency, there is likewise no dependence on the frequency, but the two lifetimes are no longer equal. For germanium samples, which are monopolar at low temperature, this case was observed experimentally. The results obtained by this method can be monitored by measuring the photomagnetic effects, which is likewise determined by the lifetimes of the minority carriers. The authors thank E. I. Rashba for a discussion of the results. Orig. art. has: 2 figures, 5 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 28Jun65/ ORIG REF: 005/ OTH REF: 002

Card 2/2 SNV

L 18758-66 EWT(1)/T/EWA(h) IJP(c) AT

ACC NR: AP6003763 SOURCE CODE: UR/0181/66/008/001/0067/0071

AUTHORS: Lashkarev, V. Ye.; Malyutenko, V. K.; Romanov, V. I.

ORG: Institute of Semiconductors AN UkrSSR (Institut poluprovodnikov AN UkrSSR)

21,44,55

TITLE: Method of determining the lifetime of minority carriers in monopolar photoconductors

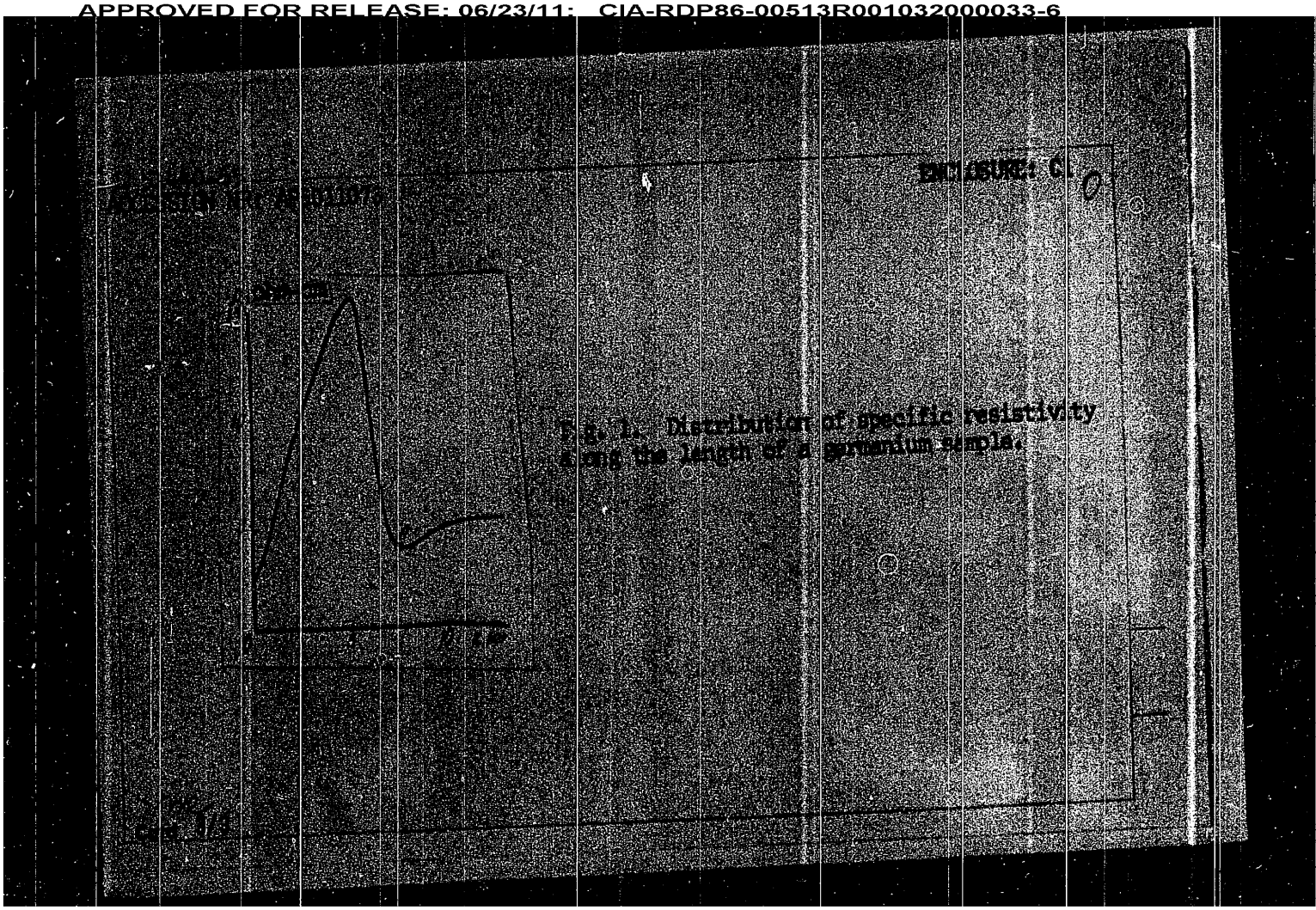
SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 67-71

70
69

TOPIC TAGS: minority carrier, photoconductivity, photoconductor, carrier lifetime, semiconductor carrier, photomagnetic effect, physical diffusion, electron recombination

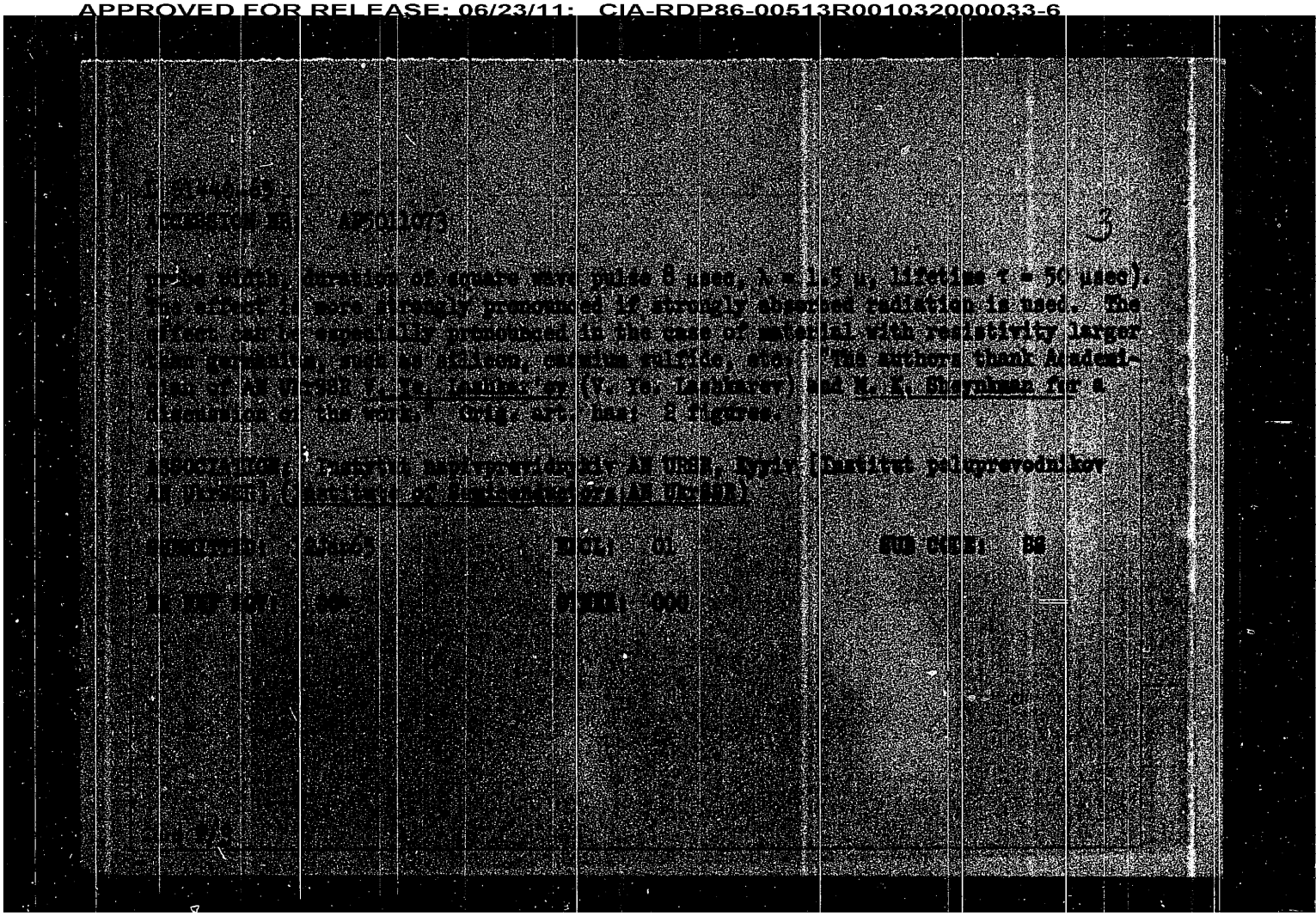
ABSTRACT: In view of the fact that the standard method of determining the lifetime of minority carriers, based on the stationary photomagnetic effect, is not applicable to semiconductors in which the diffusion of the nonequilibrium carriers occurs within the limits of the near-surface bending of the bands, the authors propose a new method, based on an investigation of the frequency dependence of the

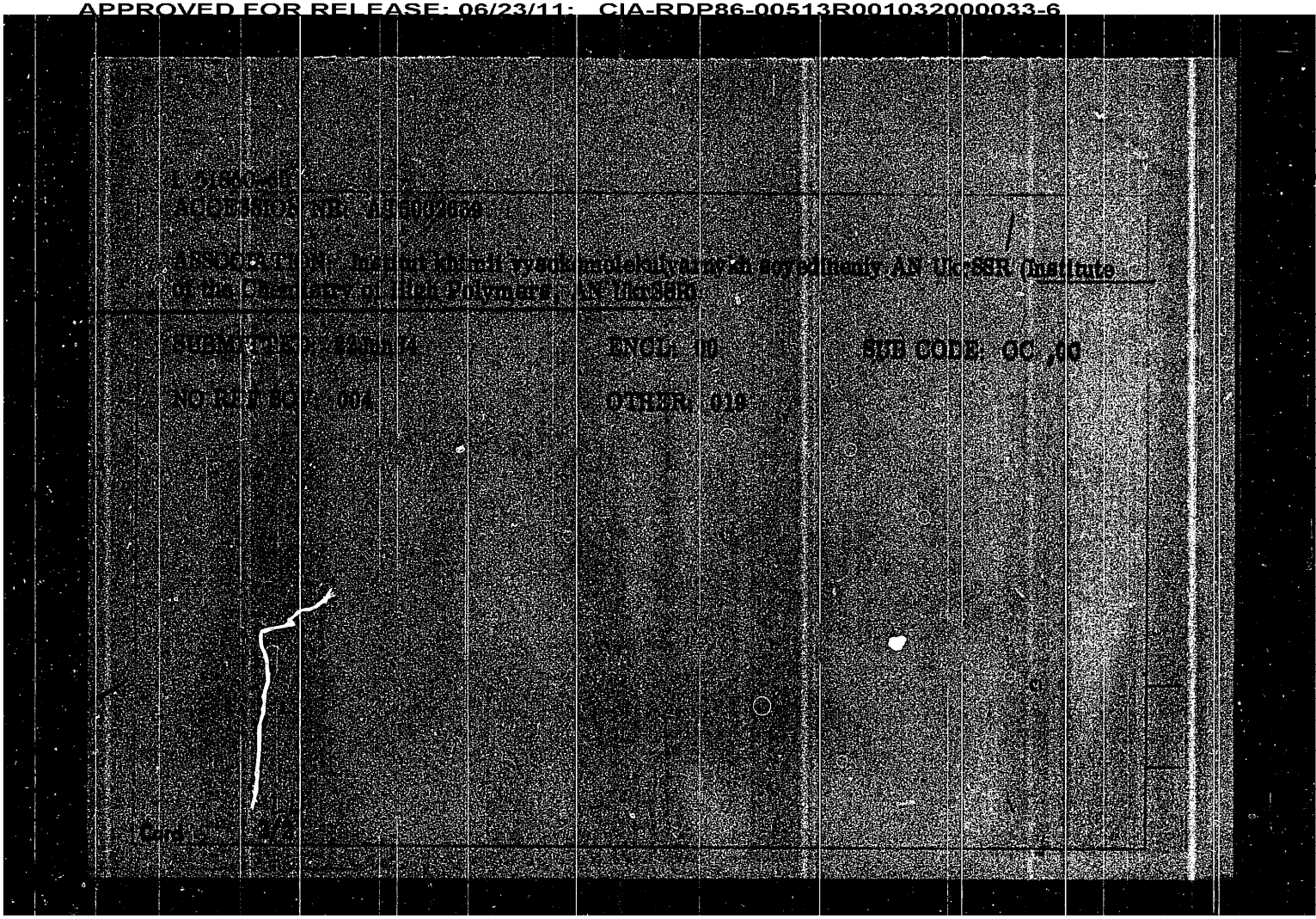
Card 1/2



ENCLOSURE: C1

Fig. 1. Distribution of specific resistivity along the length of a germanium sample.





L 51860-65 EWT(m)/EPF(c)/EPR/EWP(j)/T/EWA(c) Pc-4/Pr-4/Ps-4 RM/GS/RM

ACCESSION NR: AT5002659 S/0000/64/000/000/0039/0044

AUTHOR: Dyakov, A.P.; Malyutenko, S.A.; Kornev, K.A.

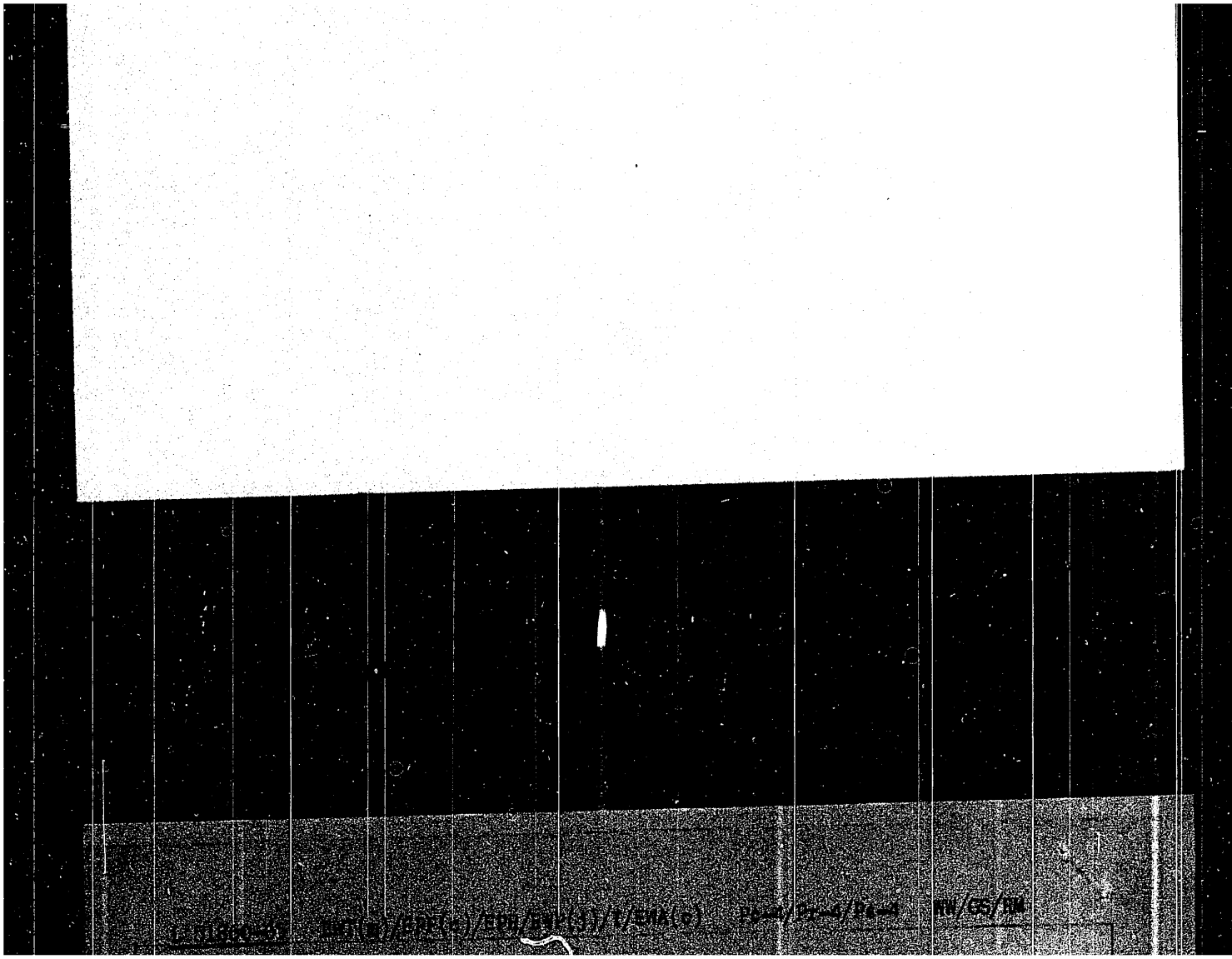
TITLE: Synthesis and study of polyaminotriazoles-1,2,4

SOURCE: AN UkrSSR. Institut khimii vysokomolekulyarnykh soyedineniy. Sintez i fiziko-khimiya polimerov; sbornik statey po rezul'tatam nauchno-issledovatel'skikh rabot (Synthesis and physical chemistry of polymers; collection of articles on the results of scientific research work). Kiev, Naukova dumka, 1964, 39-44

TOPIC TAGS: polyaminotriazole synthesis, dicarboxylic acid, dihydrazide, polyhydrazide, aminotriazole polymerization

ABSTRACT: Ten simple or compound polyaminotriazoles were synthesized from mixtures of hydrazine hydrate with adipic, azelaic, sebacic, isophthalic, succinic or pimelic acids, the dihydrazides of dicarboxylic acids or polyhydrazides. The use of aromatic solvents (cresol, phenol) and an inert gas in the polymerization process improved product quality by inhibiting its oxidation. The authors describe the color, solubility, melting point, specific viscosity and molecular weight and present graphs showing the thermostability and thermomechanical properties of the synthesized materials. Orig. art. has: 1 table, 2 figures and 1 formula.

Card 1/2



MALYUTA, Yu.M.

Mass formulae in Schwinger's model. Ukr. fiz. zhur. 10 no.2: 229-232 F '65.

Mass formulae for mesons, baryons, and isobars derived from quartets. Ibid.: 232-23[illegible] (MIRA 18:4)

1. Institut fiziki AN UkrSSR, Kiyev.

MALYUTA, Yu.M.

Unitary symmetry and Regge poles. Ukr. fiz. zhur. 10 no.1:3-9 Ja '65. (MIRA 18:4)

1. Institut fiziki AN UkrSSR, Kiyev.

takes on the form

$$A(st) = -\frac{\lambda^2}{t} - \frac{i\lambda^2}{8\pi^2\sqrt{s(s-4m^2)}}\int dt_1 \frac{1}{t}\ln(t_1 - t)\,A_s(st_1). \qquad (4),$$

and when the dispersion relation is taken into account the differential equation

$$t\frac{d}{dt}A(st) = \alpha(s)\,A(st);$$
$$\alpha(s) = -1 + i\lambda^2/8\pi\sqrt{s(s-4m^2)}, \qquad (5)$$

results, which has the solution $A(st)=\beta(s)t^{\alpha(s)}$. From a graphic representation of Re $\alpha(s)$ as a function of s for $m=1$ and $\lambda^2=25$ it may be seen that there exists a set of bound states; d Re $\alpha(s)/ds > 0$ for $2m^2 < s < 4m^2$. There are 2 figures.

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Institute of Physics of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: November 3, 1962

S/056/63/044/004/028/044
B102/B186

AUTHOR: Malyuta, Yu. M.

TITLE: Regge poles in quantum field theory

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 4, 1963, 1317 - 1319

TEXT: The determination of the Regge pole trajectories s is the main problem in the new method developed for investigating bound states and resonances. In the present paper the unitarity condition and the dispersion relations are used for deriving asymptotic expressions for the meson-meson scattering amplitude in the region of large momentum transfer. In this case ($t\to\infty$, $z\to\infty$) the general expression

$$A(sz) = -\frac{\lambda^2}{2q^2(z-1)-m^2} - \frac{\lambda^2}{32\pi^2\sqrt{q^2(q^2+m^2)}}\int dz_1 \frac{1}{\sqrt{k(zz_1z_2)}} \times \quad (3)$$

$$\times \ln\frac{z-z_1z_2+\sqrt{k(zz_1z_2)}}{z-z_1z_2-\sqrt{k(zz_1z_2)}} A_s(sz_1);$$

$$z_2 = 1 + m^2/2q^2,$$

Card 1/2

Analytical properties of partial...

J. Polkinghorne, G. Screaton. Nuovo Cim., 15, 289, 1960; J. Taylor, A. Warburton. Phys. Rev., 120, 1506, 1960.

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Physics Institute of the Academy of Sciences of the Ukrainskaya SSR)

SUBMITTED: April 23, 1962

Card 2/2

S/056/62/043/004/037/061
B108/B102

AUTHOR: Malyuta, Yu. M.

TITLE: Analytical properties of partial amplitudes

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1397-1399

TEXT: It is shown for pion-pion scattering that the condition $\cos\theta = \pm 1$ (θ is the scattering angle in the c.m.s.) for the singular points of the partial amplitudes $A_l(k^2) = \int_{-1}^{1} d\cos\theta A(k^2, \cos\theta) P_l(\cos\theta)$ makes it possible to apply Symanzik's method of majorization (Progr. Theor. Phys., 20, 690, 1958) in order to determine the nearest singular points; k is the pion momentum in the c.m.s. With the aid of the graph technique these are found to be at $k_-^2 = -\mu^2$, $k_+^2 = 0$ (μ = pion mass). The author restricts himself to scalar interaction and simple graphs with four-end vertices. There are 8 figures. The most important English-language references are:

Card 1/2

MALYUTA, Yu.M.

Dispersion relations for vertex parts. Zhur. eksp. i teor. fiz. 40 no.4:1128-1133 Ap '61. (MIRA 14:7)

1. Institut fiziki AN Ukrainskoy SSR.
(Particles (Nuclear physics))

MALYUTA, Yu.M.

Dispersion relations for the scattering of π-mesons on K-mesons. Ukr. fiz. zhur. 6 no.4:566-567 Jl-Ag '61. (MIRA 14:9)

1. Institut fiziki AN USSR, g. Kiyev.
(Mesons--Scattering)

MALYUTA, Yu.M.

Dispersion relations for the scattering of K-mesons on K-mesons. Ukr. fiz. zhur. 6 no.4:565-566 Jl-Ag '61. (MIRA 14:9)

1. Institut fiziki AN USSR, g. Kiyev.
(Mesons--Scattering)

MALYUTA, Yu.M.

Dispersion relations for pion-hyperon scattering. Ukr. fiz. zhur. 6 no.4:449-456 Jl-Ag '61. (MIRA 14:9)

1. Institut fiziki AN USSR, g. Kiyev.
(Mesons--Scattering)

MALYUTA, Yu. M., Cand. Phys-Math. Sci. (diss) "Analytical Properties of Amplitudes of Impact of Strongly Interacting Particles." Kiev, 1961, 7 pp (Combined Scientific Council of Institutes of Mathematics, Physics, and Metallic Physics, Acad. of Sci. UkrSSR) 200 copies (KL Supp 12-61, 252).

MALYUTA, V. D.

Each excavator crew fulfilled two yearly quotas. Transp. stroi. 13 no.3:38-39 Mr '63. (MIRA 16:4)

1. Starshiy inzhener tresta Yugstroymekhanizatsiya.

(Railroads--Earthwork)

MALYUTA, V. D.

Construction of a roadbed under a continuous rail track on the Bataysk-Starominskaya line. Transpstroi 13 no. 11: 4-6 N '63. (MIRA 17:5)

1. Ispolnyayushchiy obyazannosti glavnogo inzhenera mekhanizirovannoy kolonny No. 63 na stroitel'stve novoy linii Bataysk - Starominskaya.

KOTOVSKIY, Ya. M., inzh.; DROZDOV, V. I., inzh.; MALYUTA, V. D.

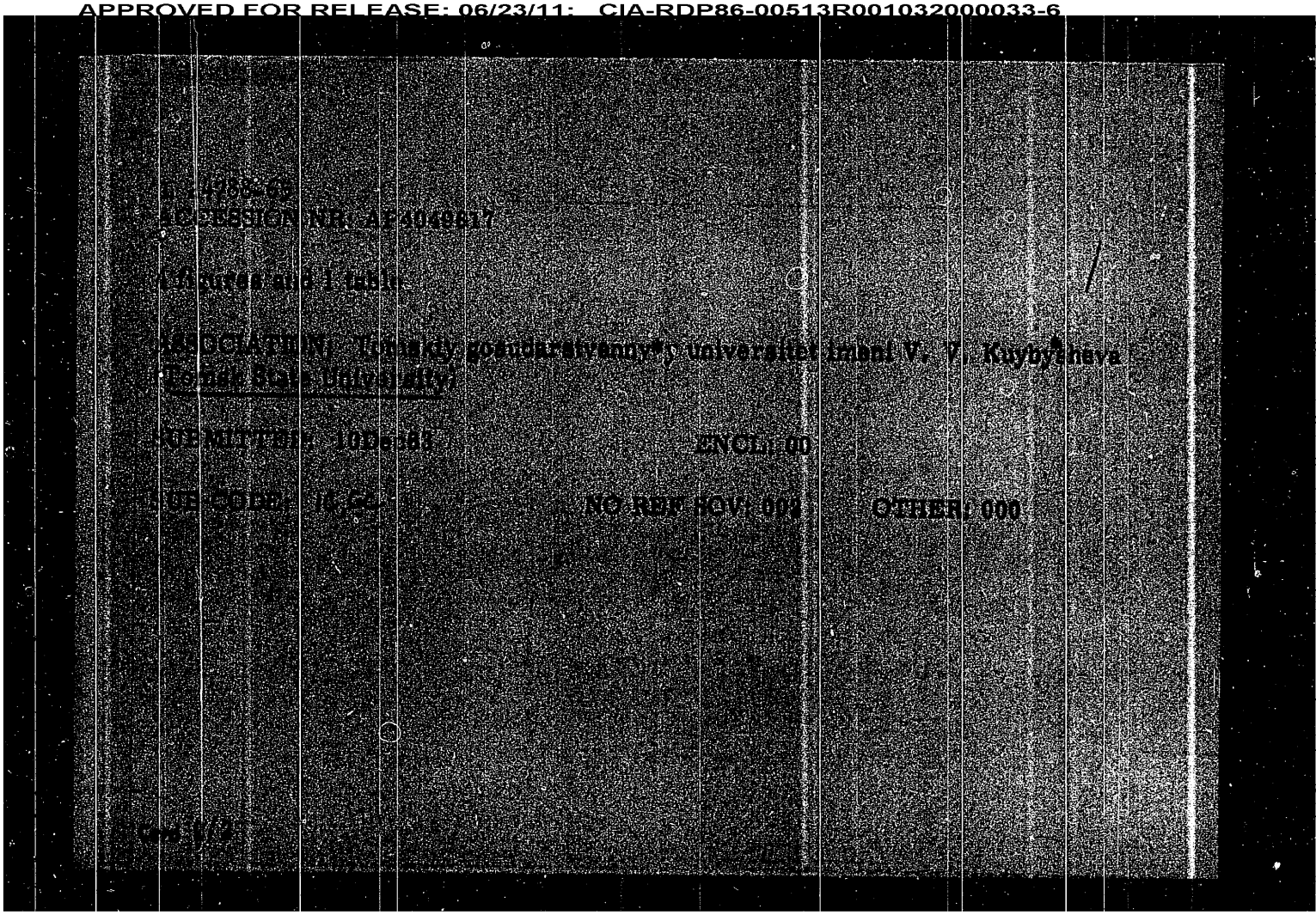
They write to us. Transp. stroi. 13 no.4:76-77 Ap '63.
(MIRA 16:4)

1. Dneprogiprotrans (for Kotovskiy). 2. Starshiy inzhener proizvodstvenno-tekhnicheskogo otdeleniya tresta Yugstroymekhanizatsiya (for Malyuta).

(Construction industry)

MALYUTA, V., inzh.; PAVLOV, V., inzh.

Universal method for the layout of a soil bed. Avt. dor. 28 no.5:24-25 My '65. (MIRA 18:11)



4988-65
ACCESSION NR: AP5049617

6 figures and 1 table.

ASSOCIATION: Tomskiy gosudarstvennyy universitet imeni V. V. Kuybyshev (Tomsk State University)

SUBMITTED: 10Dec64 ENCL: 00

SUB CODE: IE, GC NO REF SOV: 003 OTHER: 000

Card 1/2

L 22788-66 EWT(m)/EWP(b)/EWP(t) IJP(c) JD/JG
ACCESSION NR: AT5048617 S/0070/64/038/011/1725/1727

AUTHOR: Vozzhinskaya, L. N.; Malyuta, N. G.; Kalayev, G. A.

TITLE: Kinetics of dissolving of gallium arsenide in sulfuric and phosphoric acid solutions of hydrogen peroxide

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 11, 1964, 2725-2727

TOPIC TAGS: kinetics of dissolving, gallium arsenide, hydrogen peroxide, sulfuric acid, phosphoric acid

ABSTRACT: The authors have investigated the dissolving of gallium arsenide in hydrogen peroxide in the presence of sulfuric and phosphoric acids. They found that the rate of dissolution increases with an increase in the concentration of hydrogen peroxide up to a certain point, and then remains constant. The rate of dissolution increases with an increase of acid concentration up to about 4 M, and decreases at higher acid concentrations. The values of the apparent energy of activation of dissolving of gallium arsenide were calculated. Orig. art. has:

Card 1/2

MALYUTA, M., master.

Operation of the production line at the Uman' Buttermaking Plant.
Moloch. prom. 18 no.4:16-18 '57. (MLRA 10:4)
(Uman'--Creameries)

DRUKOVANYY, M.F., kand. tekhn. nauk; YEFREMOV, E.I., kand. tekhn. nauk; KOMIR, V.M., inzh.; MALYUTA, D.I., inzh.; VOLYNETS, M.A., inzh.; KIKOVKA, Ye.I., inzh.

Ways of further improvements in the design of charges for blasting operations in mines. Vzryv. delo no.57/14:198-209 '65.

(MIRA 18:11)

1. Filial instituta mekhaniki AN UkrSSR (for Drukovanyy, Yefremov, Komir). 2. Novo-Krivorozhskiy gorncobogatitel'nyy kombinat imeni Leninskogo komsomola (for Malyuta, Volynets, Kikovka).

MALYUTA, D.I., inzh.; VOLYNETS, M.A., inzh.; KIKOVKA, Ye.I., inzh.; KNYAZEV, K.I., inzh.; YEFREMOV, E.I., kand. tekhn. nauk; IL'IN, V.I., inzh.

Experience in the blasting of hard ores by deep boreholes in the open-pit mine of the Krivoy Rog Mining and Ore Dressing Combine. Vzryv. delo no.57/14:145-151 '65. (MIRA 18:11)

1. Novo-Krivorozhskiy gornoobogatitel'nyy kombinat (for Malyuta, Volynets, Kikovka, Knyazev). 2. Filial Instituta mekhaniki AN UkrSSR. (for Yefremov, Il'in).

ACC NR: AP7002748

pending on the section of the quarry tested. The central part of the quarry had the greatest differences in fragmentation width due to a composite geological structure. The fragmentation width was also given as a function of shelf width. The results were all similar; as the shelf width increased from 5 to 30 m, the fragmentation width decreased from 40 to 0 m. For western and eastern sections of the quarry, the fragmentation width was given as a function of the specific explosive input (kg/m^3) for different shelf widths. The large variance in results was due to the differences in physico-mechanical properties of the detonated rock--hardness, brittleness, and toughness. The fragmentation width increased with specific explosive input, with the lowest values of fragmentation width occurring in the widest shelves. The shelf width was the most important factor in controlling the fragmentation width of a mountainous mass. Orig. art. has: 3 figures.

SUB CODE: 19,08/ SUBM DATE: none

Card 2/2

ACC NR: AP7002748 (A) SOURCE CODE: UR/0383/66/000/006/0063/0066

AUTHOR: Malyuta, D. I.

ORG: none

TITLE: The effect of explosive conditions on the fragmentation width of a mountainous mass

SOURCE: Metallurgicheskaya i gornorudnaya promyshlennost', no. 6, 1966, 63-66

TOPIC TAGS: high explosive, underground explosion, explosion effect

ABSTRACT: The influence of explosive conditions on the fragmentation width of a mountainous mass was studied. Three variables were analyzed: the effect of the resistance along the base of the mountain shelf, the effect of the shelf width, and the dependence of the fragmentation width on the specific amount of explosive input. Each variable was studied by keeping the others constant. Testing was done by setting off explosions in different parts of a quarry. The shelf widths chosen were 5-10 m, 10-15 m, 15-20 m, 20-25 m, and 25-30 m. The fragmentation width varied from 2 to 45 m depending on the location and other variables. For western, eastern, and central parts of the quarry the fragmentation width was given as a function of resistance along the base of the shelf (*m*). In all cases, the fragmentation width decreased with resistance, although the values were lowest for the larger shelf widths. Data varied de-

Card 1/2

UDC: 622.235.5

MALYUTA, D.I., kand.sel'skokhoz. nauk

Transformation as a method for developing valuable winter durum wheat varieties. Agrobiologiia no.3:456-458 My-Je '63.
(MIRA 16:7)

1. Zaporozhskaya oblastnaya sel'skokhozyaystvennaya opytnaya stantsiya.

(Wheat)

MALYUTA, D.I.

USSR/Cultivable Plants / Grains. M-2

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10609

Author : Malyuta, D.I.
Inst : [redacted]
Title : The Reasons for the Failure of the Winter Wheat Crop in Voronezhskaya Oblast' in 1953-1955.

Orig Pub : Tr. po selektsii, agrotekhn. i zashchite rast. Ramonsk. opytn.-selekts. st., 1956, 5, 139-153.

Abstract : Information is given on the weather conditions, depth to which the soil was frozen, and hibernation of the following wheat sorts: Gostianum 237, Stepnaya 133, Ramonskaya 893, Ramonskaya 42, Veselo-Podolyanskaya 1044, and Verkhnyacheskaya Voskhod. The wheat died because of the low snow cover (0-13 cm) and flooding during the February thaw.

Card 1/1

USSR/Cultivated Plants. Grains.

M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20250.

Author : D. I. Malyuta
Inst : Not given.
Title : The Problem of Naming the Varieties of Branched Wheat. (K voprosu o naimenovanii raznovidnostey vetvistoy pshenitsy.)

Orig Pub: Tr. po selektsii, agrotekhn. i zashchite rast. Ramonsk. opyt.-selekts. st., 1956, 5, 69-73.

Abstract: A review of the varieties of branched wheat. The new varieties listed are var. compositum-erithrospermum, var. nova mihi, var. compositum-nigri-aristatum, var. nova mihi, var. compositum verugineum, var. nova mihi and others. The bibliography contains 10 listings.

Card : 1/1

MALYUTA, D.I., kandidat sel'skokhozyaystvennykh naul.

Transformation of spring wheat into winter wheat. Agrobiologiia no.3:69-70 My-Je '56. (MLRA 9:9)

1.Ramonskaya opytno-selektsionnaya stantsiya, Voronezhskaya oblast'.
(Botany--Variation) (Wheat)

NOVOZHILOV, M.G., doktor tekhn. nauk; DRUKOVANYY, M.F., kand. tekhn. nauk; YEFREMOV, E.I., inzh.; ALEKSEYEV, F.K., kand. tekhn. nauk; [illegible], D.I., inzh.

Increasing mining rates during the construction of strip mines. Shakht. stroi. 8 no.7:23-24 Jl '64. (MIRA 17:10)

1. Inguletskiy gornoobogatitel'nyy kombinat (for Alekseyev). 2. Novokrivorozhskiy gornoobogatitel'nyy kombinat (for Maiyuta).

ARSENT'YEV, A.I., dotsent, kand. tekhn. nauk; OVODENKO, B.K., gornyy inzh.; KIKOVKA, Ye.T., gornyy inzh.; MAIYUTA, D.I., gornyy inzh.; NIKOLAYEV, K.P., gornyy inzh.

Speeding up stripping and development of the "+15m" level of the strip mine at the Southern Mining and Ore Dressing Combine. Sbor. nauch. trud. KGRI no.15:17-22 '63. (MIRA 17:8)

U

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.; BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.; DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.; KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.; LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO, B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.; POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.; SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.; TERESHCHENKO, A.A.; TITOV, D.S.; FEDIN, A.F.; KHOMYAKOV, N.P.; SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy Rog Basin mining and ore dressing combines. Gor. zhur. no.6: 8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

ALEKSEYEV, F.K., kand.tekhn.nauk; MALYUTA, D.I., inzh.

"Improving the technical methods and equipment in open-pit mining of iron-ore deposits" by M.G.Novozhilov, V.G.Selianin. Reviewed by F.K.Alekseev, D.I.Maliuta. Izv. vys. uch. zav.; gor. zhur. 5 no.6:194-196 '62. (MIRA 15:9)
(Iron mines and mining) (Selianin, V.G.)

Efficient Type of Transportation for Open-Cut Mines

transportation, or automobile transportation alone, for the removal of the excavated rock. To eliminate existing deficiencies, the authors recommend the introduction of EKG-4 and EKG-8 excavators, of 80-150 ton electric locomotives and 50-90 ton dump cars. There are 2 tables.

14(5) SOV/118-59-2-7/26

AUTHOR: Skorykh, S.S., Malyuta, D.I., and Zolotarevskiy, L.M., Engineers

TITLE: Efficient Type of Transportation for Open-Cut Mines (O ratsional'nom vide transporta dlya kar'yerov)

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959, Nr 2, p 26 (USSR)

ABSTRACT: The practice of five years has shown that excavators at the Krivorozhskiy kar'yer Yuzhnogo gorno-obogatitel'nogo kombinata YuGOK (the Krivoy Rog Open-Cut Mine of the Southern Mining and Concentrating Combine) are not being fully exploited. The coefficient of utilization does not exceed 0.35 ; the remaining 65% of the working time, the excavators stand idle. The reason for this is that transportation is carried out by railroad. Referring to US transportation methods, the authors demand the introduction of combined automobile-railroad

Card 1/2

MALYUTA, D.

USSR/Cultivated Plants - Grains. M-2

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91611

Author : Malyuta, D.
Inst :
Title : The Passive Exposure of Underground Plant Parts, a Basic Cause for the Loss of Winter Wheat.

Orig Pub : Inform. sil'skogospod. byul. Zanoriz'ke obl. vid. t-va dlya poshir. polit. i nauk. znan', 1957, No 8, 6-8.

Abstract : No abstract.

Card 1/1

MALYUTA, D. A.

The Medvedov Machine-tractor Station. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1955. 221 p.

1. Machine-tractor stations. 2. Agriculture, Cooperative - Russia.

MAL'UTA, D. A.

Over-all mechanization in field crop cultivation and stock breeding..
Moskva, Znanie, 1954. 30 p. (Seriia 5. no. 16)

1. Farm mechanization - Russia.

1. MALYUTA, D.

2. USSR (600)

4. Agricultural Machinery

7. Over-all mechanization of collective farm production. Kolkh proizv. 12 no. 10: 1952

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

MALYUTA, D. A.

Machine-Tractor Stations

Work practice of the Medvedevskaya Machine-Tractor Station, Dost. sel'khoz., No. 8, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, November 1952. UNCLASSIFIED.

L 43640-66 RO

ACC NR: AT6032348 SOURCE CODE: HU/2505/65/027/001/0059/0063

AUTHOR: Malyusz, Miklos; Kover, Gyorgy

15
B+1

ORG: Institute of Physiology, Medical University of Budapest, Budapest (Budapesti Orvostudomanyi Egyetem, Elettani Intezet)

TITLE: Effect of papaverine on the function of the renal tubular cells

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 27, no. 1, 1965, 59-63

TOPIC TAGS: pharmacology, animal physiology

ABSTRACT: The PAH transport and oxygen consumption by rat kidney cortex slices was studied at 28° and 37° C. At 28°, the oxygen uptake was 2.96 µl/h/mg and the S/M ratio was 18.34. At 37°, the oxygen consumption averaged 4.26 µl/h/mg with an S/M value of 6.89. The release of PAH from the tubular cells into the tubular lumen was inhibited at 28°. With an unchanged PAH uptake, this fact resulted in an increased PAH accumulation and an increased S/M ratio. Papaverine decreased the PAH accumulation and the oxygen uptake at both temperatures. The oxygen consumption showed a linear decrease while the S/M ratio decreased exponentially. This effect of papaverine can be accounted for by the drug-induced uncoupling of oxidative phosphorylation. Orig. art. has: 3 figures and 1 table. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: 28Nov63 / OTH REF: 012

Card 1/1 LS

0919 2401

L 33786-66

ACC NR: AT6025180 SOURCE CODE: HU/2505/65/028/001/0053/0057

AUTHOR: Kover, Gyorgy--Kever, D. (Budapest); Malyusz, Miklos--Malyus, M. (Budapest); Ello, Erzsebet--Elle, E. (Budapest); Szocs, Eva--Sech, E. (Budapest)

ORG: Institute of Physiology, Medical University of Budapest (Budapesti Orvostudomanyi Egyetem, Elettani Intezet)

TITLE: Effect of angiotensin on renal circulation

SOURCE: Academia scientiarum hungaricae. Acta physiologica , v. 28, no. 1, 1965, 53-57

TOPIC TAGS: hormone, endocrinology, animal physiology

ABSTRACT: The effect of angiotensin II on "in situ" and "isolated" kidneys has been studied. 1) When infused into the renal artery of the in-situ kidney, angiotensin increased the renal resistance and decreased the RBF_{dir}, C_{PAH} and C_{creat}. There was a significant increase in E_{creat} and E_{PAH}. 2) In the isolated kidney, renal resistance was increased and RBF_{dir} was diminished by angiotensin. There was no change in the C_{PAH} and C_{creat}, whereas E_{creat} and E_{PAH} increased significantly. 3) The increase in E_{PAH} in response to angiotensin may be ascribed to an improvement in the PAH-secreting activity of the tubular cells. Another possibility is the presence of shunts in the kidney which may be constricted by angiotensin more than the blood vessels of the functioning renal substance are. Orig. art. has: 2 tables. [Orig. art. in Eng.] [JPRS: 33,507]

SUB CODE: 06 / SUBM DATE: 24Nov64 / ORIG REF: 002 / OTH REF: 007

Card 1/1

BOLLOBAS, Bela; MEGYESI, Laszlo; MORICZ, Ferenc; BOROCZKY, Karoly; MAKKAI, Mihaly; MALYUSZ, Karoly; SIMON, Laszlo; TUSNADY, Gabor; MAKKAI, Mihaly; SZOKEFALVI-NAGY, Bela; ACZEL, Janos; HOSSZU-MIKLOS; HALASZ, Gabor; KALMAR, Agota; KATAI, Imre; LOSONCZI, Laszlo; SZASZ, Domokos

The 1961 Mathematical Contest in Memory of Miklos Schweitzer. Mat lapok 13 no.1/2:153-171 '62.

1. "Matematikai Lapok" szerkeszto bizottsagi tagja (for Aczel).

CSISZAR, Imre; MALYUSZ, Karoly; KATAI, Imre; KREM, Alajos; MAKKAI, Mihaly

The 1960 Miklos Schweitzer Memorial Contest of Mathematics. Mat lapok 12 no.1/2:75-102 '61

MALYUSOVA, M.M.; MASLENNIKOV, N.A.; KHOVANSKIY, G.S.

Growth rate of methane-producing bacteria. Vod. i san.tekh. no.4:36-38 Ap '59. (MIRA 12:5)
(Sewage--Bacteriology) (Methane)

MALYUSOVA, F.M.

Forms of leucosis resembling tumors. Vrach.delo no.10:18-21 O '60.
(MIRA 13:11)

1. Fakul'tetskaya terapevticheskaya klinika (zav. - prof. D.G. Oystrakh) na baze Astrakhanskoy oblastnoy bol'nitsy.
(LEUKEMIA)

MALYUSOVA, F.M. (Astrakhan')

Diagnosis of myeloma. Klin.med. 37 no.4:151-152 Ap '59
(MIRA 12:6)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. - prof. D.G.Oystrakh) na baze Astrakhanskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach respubliki A.K.Belyayeva).

(MYELOMA, PLASMA CELL, diag.
biopsy of lymph nodes (Rus))
(LYMPH NODES, pathol.
biopsy in diag. of multiple myeloma (Rus))

MALYUSOVA, F. M.

33504

O Biokhimicheskikh Izmeneniyakh Spinnomozgovoy Zhidkost I U Bol'nykh Nefritom. Trudy Kurskogo Gos. Med. In-Ta, T. 11, Vyp. 2, 1948, c. 57-64.

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Maskva, 1949

MALYUSOV, V.A.; MALAFEYEV, N.A.; KUZ'MIN, N.G.; ZHAVORONKOV, N.M.;
Prinimala uchastiye POLICHKINA, Ye.V.

Studying high-speed uniflow rectification in a multistage tubular apparatus. Khim. prom. no.6:458-461 Je '64. (MIRA 18:7)

KUZ'MIN, N.G.; MALYUSOV, V.A.

High-speed wetted-wall rectification. Basic relationships of mass transfer during rectification in single tubes. Khim. prom. no.5:351-357 My '64. (MIRA 17:9)

MALYUSOV, V.A.; UMNIK, N.N.; GLAZUNOV, D.N.

Multistage column with a rotating wheel for molecular distillation. Zav.lab. 28 no.6:752-753 '62. (MIRA 15:5)

1. Nauchno issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya. Karpova.

(Distillation apparatus)

MALYUSOV, V.A.; ZHAVORONKOV, N.M.; MALAFEYEV, N.A.; ROMEYKOV, R.N.; Prinimali uchastiye: BABKOV, S.I.; UVAROV, O.V.; SOLYANKIN, L.N.; GRISHIN, D.M.

Effectiveness of regular packings in the rectification of water. Khim.prom. no.7:519-529 JL '62. (MIRA 15:9)
(Packed towers)

KUZNETSOV, V.V.; MALYUSOV, V.A.

Separation of liquid mixtures with the aid of cellophane.
Khim.prom. no.5:345-346 My '62. (MIRA 15:7)
(Liquids) (Cellophane)

Synthetic Zeolites: (Cont.) SOV/6246

Synthetic Zeolites: (Cont.) SOV/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Card 2/12

MALYUSOV, V.A.

128

PHASE I BOOK EXPLOITATION SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye (Synthetic Zeolites: Production, Investigation, and Use). Moscow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady) Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P. Golub'.

PURPOSE: This book is intended for scientists and engineers engaged in the production of synthetic zeolites (molecular sieves), and for chemists in general.

Card 1/[illegible] 3

language publications read as follows: L. Love et al. Proceedings of the International Symposium on Isotope Separation. Amsterdam, 1958, p. 615; D. Trauger et al. Proceedings of the International Symposium on Isotope Separation. Amsterdam, 1958, p. 350; F. Kelley. Canad. J. Phys., 32, No. 1, 81 (1954); A. Brewer, S. Nadorsky. J. Res. Nat. Bur. Standards, 38, No. 1, 129 (1947).

SUBMITTED: July 14, 1960

Fig. 3. Enrichment in Li^6 as a function of time. Abscissa: time in hr. Ordinate: total enrichment coefficient.

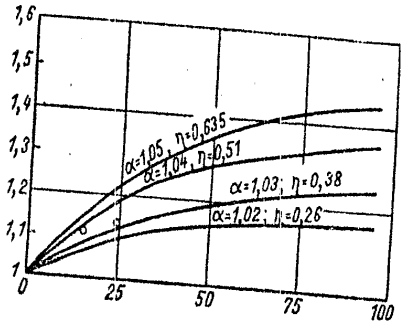


Fig. 3

Lithium isotope separation by the ...

the lower (first), Li^7. The degree of enrichment in Li^6 was calculated from the relation $K = x_2(1-x_1)/x_1(1-x_2)$, where x_1 and x_2 denote the Li^6 concentrations in the first and the eighth cell. Detailed measurements showed that the apparatus did not work steadily: the metal levels differed considerably and the characteristics were dependent on the angle of inclination of the apparatus in an unwanted manner. At an inclination of 3.5°, even impoverishment in Li^6 was observed in the upper part of the apparatus. In order to improve its operation, all cells except for the first and the fourth were filled with rings of a 30-mesh metallic grid, 5 - 6 mm in diameter and height. With the improved apparatus two series of measurements were made with an inclination of 1.5°, a residual gas pressure of $9 \cdot 10^{-3}$ mm Hg, and condenser temperatures of 265-270°C (first) and 340 - 350°C (second series). The apparatus was found to work more steadily and yielded better results. From samples taken from the cells the isotope concentrations were determined by an МСЛ-3 (MSL-3) mass spectrometer, and the time dependence of the total enrichment was determined (Fig. 3). There are 3 figures, 3 tables, and 12 references: 3 Soviet and 9 non-Soviet. The four most recent references to English-

Card 2/3

29539
S/089/61/011/005/004/017
B102/B101

24.6210
21.4200

AUTHORS: Malyusov, V. A., Orlov, V. Yu., Malafeyev, N. A., Umnik, N.N., Zhavoronkov, N. M.

TITLE: Lithium isotope separation by the method of molecular distillation of liquid lithium

PERIODICAL: Atomnaya energiya, v. 11, no. 5, 1961, 435 - 439

TEXT: Experiments are described which were made in 1955-1956 with the assistance of I. V. Aristov and N. P. Abramov. The authors determined the lithium isotope separation factor in a single-stage apparatus for liquid lithium evaporation. $\alpha = 1.08 \pm 0.02$ was found for 500°C, a result which agreed with that of Trauger et al. (see below). Because of this relatively high value, further experiments were made with a multi-stage apparatus of the same type as had been proposed by Brewer and Madorsky (see below). The construction of this apparatus was described in detail by V. A. Malyusov, N. A. Malafeyev, and N. M. Zhavoronkov (Khim. mashinostroyeniye, no. 4, 4, 1959). The apparatus has eight cells and operates with a counterflow mechanism. In the upper cell, Li^6 is concentrated, in

Card 1/3

KONOBEYEV, B.I., kand.khim.nauk; MANYUSOV, V.A., kand.khim.nauk;
ZHAVORONKOV, N.M.

Film absorption in a high speed gas flow. Khim. prom. no.7:475-481 Jl '61. (MIRA 14:7)

1. Chlen-korrespondent AN SSSR (for Zhavoronkov).
(Absorption)

MALAFEYEV, N.A.; MALYUSOV, V.A.; UMNIK, N.N.; SAKODYNSKIY, K.I.; ZHAVORNOKOV, N.M. Prinimali uchastiye: PODGORNAYA, I.V.; ABRAMOVA, V.P.; BARANOVA, V.I.

Determination of the fractionation factors of binary mixtures tetrachloroalkanes during vaporization in a high vacuum. Khim.prom. no.3:196-198 Mr '61. (MIRA 14:3)
(Paraffins) (Distillation, Fractional)

4

MALYUSOV, V.A., MALAFEYEV, N.A., ORLOV, V. YU., UMNIK, N.N., SHAVORONKOV, N.M.

"Uterschung uber der Trenneg der Isotope des Lithiums durch Molekulardestillation."

Report presented at the 2nd Conf. on Stable Isotopes.
East German Academy of Sciences, Inst. for Applied Physical Material.
Leipzig, GDR, 30Oct-4 Nov '61.

MALAFEYEV, N.A.; MALYUSOV, V.A.; UMNIK, N.N.; PODGORNAYA, I.V.; ZHAVORONKOV, N.M.

Saturated vapor pressure of tetrachloroalkanes at low temperatures. Dokl. AN SSSR 135 no.3:659-662 N '60. (MIRA 13:12)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. 2. Chlen-korrespondent AN SSSR (for Zhavoronkov).
(Paraffins) (Vapor pressure)

MALYUSOV, V.A.; UMNIK, N.N.; ZHAVORONKOV, N.M.

Separation of semiproducts in the synthesis of vitamin A by vacuum rectification and molecular distillation. Med.prom. 14 no.11:27-33 N '60. (MIRA 13:11)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(VITAMINS--A)

Partition Coefficient of Potassium - Sodium Mixtures on Evaporation in High Vacuum

84218
S/078/60/005/010/017/021
B004/B067

SUBMITTED: July 15, 1959

Card 3/3

Partition Coefficient of Potassium - Sodium Mixtures on Evaporation in High Vacuum

sodium. Fig. 1 shows the evaporation apparatus constructed from ЭЯ-1-Т (EYa-1-T) stainless steel, Fig. 2 shows the scheme of the entire unit with ВН-461-М (VN-461-M) forepump and ЦВЛ-100 (TsVL-100) diffusion oil pump. The experiments were made at 275 - 370°C and 2.10^{-3} - 8.10^{-3} torr. In the samples taken from the condenser, potassium was determined to be perchlorate from alcoholic solution. The partition coefficients obtained for the various temperatures are given in a Table. Fig. 3 shows $\alpha = f(t°C)$ and compares the experimental results with the theoretical curves for α_p and α_M calculated according to Ref. 4. For the sodium vapor-molecules, the mean free path λ was determined from equation $\lambda = 1/\sqrt{2}\pi n \delta^2$ (n = number of molecules per unit volume, δ = diameter of the molecule). λ was 1.56 cm at 275°C, 0.61 cm at 300°C, and 0.115 cm at 350°C. Hence, the following values were obtained for h/λ : 4.5, 11.5, and 61. Since they were between 1 and 100-150, the curve $\alpha = f(t)$ was between the curves for α_p and α_M, which corresponds to the theoretical conditions. The authors mention G. V. Kistyakovskiy. I. V. Aristova took part in the experimental work. There are 3 figures, 1 table, and 10 references: 3 Soviet, 3 US, 1 British, and 3 German.

Card 2/3

84218
S/078/60/005/010/017/021
B004/B067

11.4100

AUTHORS: Malafeyev, N. A., Malyusov, V. A., Zhavoronkov, N. M.

TITLE: Partition Coefficient of Potassium - Sodium Mixtures on Evaporation in High Vacuum

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2342-2345

TEXT: In earlier papers (Refs. 1,2), the authors studied the temperature dependence of the partition coefficient in organic binary mixtures for the following cases: 1) partition coefficient α_p on evaporation under equilibrium conditions in sealed vessels; 2) partition coefficient α_M on evaporation under non-equilibrium conditions (on condensation), with the mean free path λ of the vapor molecules being longer than the distance, h, between vaporizer and condenser; 3) the cases for $\lambda < h$. The authors found that at $h/\lambda \simeq 100 - 150$ the coefficients α_p and α_M become equal. In the present paper, they report on the determination of the partition coefficient on evaporating a mixture of potassium and

MALAFEYEV, N.A.; MALYUSOV, V.A.; ZHAVORONKOV, N.M.

Process of the azeotropic distillation of a styrene - ethylbenzene mixture. Khim. prom. no. 6:492-496 S '60. (MIRA 13:11)

(Styrene) (Benzene) (Distillation)

about 1.3 atm. Fig. 4 shows the change of boiling point and refractive index of the individual fractions as dependent on the total amount of distillate. The results of distillation were used to calculate the styrene losses in the intermediate fractions with a styrene content of from 5 to 95%. With the use of n-propyl alcohol as third component in the azeotropic distillation, the separating efficiency increases as compared with the distillation of the binary mixture styrene - ethyl benzene. Further investigations will be necessary to clarify the convenience of an azeotropic distillation of the mixture styrene - ethyl benzene with n-propyl alcohol as third component instead of the distillation of the binary mixture styrene - ethyl benzene. There are 5 figures, 4 tables, and 9 references: 2 Soviet, 6 US, and 1 British.

boiler, a condenser, a water-jet pump, and a graduated test glass to collect the distillate. The binary mixture styrene - ethyl benzene and the ternary mixtures styrene - ethyl benzene - third component were rectified with this apparatus. Styrene losses in the intermediate fractions were calculated on the basis of experimental results; the losses were smallest with the use of n-propyl alcohol and diethyl carbinol. In connection with the extraction of the third component, the authors studied the effect of pressure between 15 and 760 torr on the composition of the azeotropes ethyl benzene - third component. Table 2 gives the results of rectification of a mixture of ethyl benzene - acetic acid at a pressure of 100 torr. Fig. 2 graphically shows the temperature dependence of the composition of azeotropes of ethyl benzene with acetic acid, isobutyl-, n-butyl-, and n-propyl alcohol. Fig. 3 shows the dependence of the vapor pressure of $1000/(t + 230)$ for the azeotrope of ethyl benzene and n-propyl alcohol and the pure components. Table 3 gives the calculated pressure ranges in which the azeotropes investigated are stable, as well as their upper temperature limits. The azeotrope of ethyl benzene with acetic acid is stable at almost any pressure; the next best-suited is n-propyl alcohol since its azeotrope with ethyl benzene decomposes at

S/064/60/000/006/008/011
B020/B054

AUTHORS: Malafeyev, N. A., Malyusov, V. A., and Zhavoronkov, N. M.

TITLE: Study of the Process of Azeotropic Distillation of a Styrene - Ethyl Benzene Mixture

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 6, pp. 54-58

TEXT: The authors studied the effect of some substances as tertiary components in the azeotropic distillation of styrene - ethyl benzene mixtures, and determined the dependence of the composition of ethyl benzene azeotropes with the third component on pressure (or the corresponding temperature), as well as the periodic distillation of the styrene - ethyl benzene mixture with n-propyl alcohol. Tertiary components used were acetic acid, diethyl carbinol, n-propyl-, isobutyl-, and isoamyl alcohol, all of which form azeotropes with ethyl benzene and (except for diethyl carbinol), at atmospheric pressure, also with styrene; the boiling points of these azeotropes are, however, higher than those of ethyl benzene azeotropes. The apparatus used for the azeotropic distillation of the styrene - ethyl benzene mixture consisted of a rectifying column, a

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S/064/60/000/02/15/025
B022/B005

Thin-layer Rectification of the Mixture Styrene - Ethyl Benzene

distribution coefficient α on the concentration of ethyl benzene in the liquid at different pressures. Fig. 2 shows the equilibrium curve for the system styrene - ethyl benzene at different pressures. The mass transfer on rectification in the film is investigated by means of a device the diagram of which is shown in Fig. 3. The height h, which is equivalent to the theoretical plate number, is computed by equation (1). Table 2 shows the dependence of the height equivalent to the theoretical plate (HETP) and of the height of the mass transfer unit computed by equation (2) on the density of spraying. Fig. 4 shows the dependence of HETP on the density of spraying. Equation (3) was derived for the laminar current of vapors. Fig. 5 shows a comparison of the experimental results with the results obtained from equation (3) in the case of laminar vapor current. Table 3 contains data on the dependence of HETP on pressure, Fig. 6 shows a comparison of experimental results with the results of equation (4) obtained for turbulent vapor currents, and Fig. 7 the dependence of HETP on pressure in the form of a diagram. V. B. Fal'kovskiy is mentioned. There are 7 figures, 3 tables, and 12 references: 7 Soviet and 5 American.

Card 2/2

S/064/60/000/02/15/025
B022/B005

AUTHORS: Malyusov, V. A., Malafeyev, N. A., Zhavoronkov, N. M.

TITLE: Thin-layer Rectification of the Mixture Styrene - Ethyl Benzene

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 2, pp. 153 - 157

TEXT: The separation of the mixture styrene - ethyl benzene under industrial conditions is carried out in plate columns under high vacuum; difficulties arise, however, due to polymerization of styrene which occurs under these conditions in spite of all countermeasures. An attempt was made to improve the conditions by using columns with packings of irregularly shaped bodies instead of the plate column because the former show a lower hydraulic resistance than the latter. It must be assumed, however, that in thin-layer rectification in columns with regularly shaped caps a considerable reduction of temperature and a suppression of polymerization in the lower part of the column will be possible. The distribution coefficient α in the system is investigated, and the phase equilibrium conditions are measured (Table 1). Fig. 1 shows the dependence of the

SOV/32-25-5-46/56

Multistage Column for Molecular Distillation

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of Physical Chemistry imeni L. Ya. Karpov)

Card 2/2

28(5)

SOV/32-25-5-46/56

AUTHORS: Malyusov, V. A., Malafeyev, N. A., Umnik, N. N., Glazunov, D. N., Belin, B. S.

TITLE: Multistage Column for Molecular Distillation (Mnogostupenchataya kolonna dlya molekulyarnoy distillyatsii)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 5, pp 629-630 (USSR)

ABSTRACT: A multistage horizontal column of glass with a metallic condenser was constructed and tested (Fig 1). The lower part of the column is divided into individual step-like segments; each segment contains a small shovel blade set up at an angle of 45° which acts as a condenser for each individual segment. The vacuum unit consists of a rough-vacuum oil pump of the type VN-461-M and a diffusion oil pump of the type MM-40-AM. The column was tested with binary mixtures of octoyl-octoyl S and dibutylphthalate-dibutylacelate. The efficiency of the column depends on the charging and the dimension of the step-like segments and increases with the length of the column. With a medium charge of 7-10 g/cm^2, columns with step-like segments 17 mm long have an efficiency of 0.5, columns with step-like segments 34 mm long an efficiency of 0.6. The diagram shows the distillation of a quaternary mixture in a column with 11 step-like segments (Fig 2). There are 2 figures and 1 Soviet reference.

Card 1/2

MALYUSOV, V.A.; MALOFEYEV, N.A.; ZHAVORONKOV, N.M.; Prinimala uchastiye ARISTOVA, I.V.

Some methods used for increasing the effectiveness of centrifugal molecular stills. Khim.prom. no.8:695-699 D '59. (MIRA 13:6)
(Distillation apparatus)

Multistage Metallic Apparatus for Molecular Distillation

siderably simplified by leaving out some parts, needed for laboratory uses as, for instance, the inserted tub 2 and the side tester 8 (Figure 1). Figure 2 shows an apparatus of industrial type with a higher efficiency (more cells) and a higher capacity (parallel sections).
There are: 2 diagrams, 1 table and 8 references, 2 of which are Soviet and 6 English (American).

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Multistage Metallic Apparatus for Molecular Distillation

the vapors of the heat carrier. When mixtures with low melting temperatures are distilled, the condenser can be cooled directly with running water, and no special cooler is needed. In the process of distillation the mixture evaporates in each cell, the vapors rise and condense on the surface of the condenser, the distillate flows to the rib of the condenser, from where it flows over into the adjacent higher cell through the trough 7. As soon as a cell is filled with the fluid, the latter flows over into the adjacent lower cell through slits in the walls separating the cells. As a result of this process of counterflow of the fluid and vapor phases, the light components concentrate in the upper part of the apparatus and the heavy components in the lower part. The apparatus was tested (I.V. Aristova, participated) with the mixture di-e-ethylhexylphthalate-di-2-ethylhexylcebacate (EGF-EGC), the temperature and the residual gas pressure being 148° and 6.10^{-3} mm Hg respectively. Each test lasted 15 hours. The average efficiency of the apparatus was 0.68, that of individual cells ranged between 0.8 in the middle part and 0.45 at the ends. The distillation rate for one cell, computed by Knudsen-Langmuir formula was approximately 300 g/hour. For industrial use the design of the apparatus can be con-

Card 2/3

4

5.1400
~~5(4)~~ 5.1160

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SOV/184-59-4-2/18

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TITLE: Multistage Metallic Apparatus for Molecular Distillation

PERIODICAL: Khimicheskoye mashinostroyeniye, 1959, Nr 4, pp 4 - 6 (USSR)

ABSTRACT: The article describes a 9-stage apparatus of ladder-type, suitable for molecular distillation on an industrial scale. The apparatus (Figure 1) consists of a casing 1 with rectangular cross-section. Inside the casing there is a tub 2, divided by walls into cells 60 mm long each. Condenser 4 is bent in its lower part for better flowing off of the condensate. The space between the tub and the condenser is divided into sections by means of the screens, to avoid the mixing of vapors of different concentration. The apparatus is installed at an incline of 2 - 3°, the end with the flange being in the higher position. The cells are filled with the mixture to be separated. The lower part of the condenser is filled with a heat carrier, having a boiling temperature at atmospheric pressure about 50 - 100° lower than the temperature of the evaporating mixture, but higher than the melting temperature of its components. A water-cooled unit 5 serves to condensate

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The Calculation of the Film Rectification Process SOV/20-120-1-41/63

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1. Distilling plants--Performance 2. Distilling plants--Theoretical analysis

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calculations [(1) - (14a)] the authors finally obtained the following expression:

$$K = \frac{(\alpha - 1)\, e^{-\varepsilon}}{\frac{11}{48}\,\frac{\bar{w} r_0^2}{D}\,(1 - 0{,}236\,\varepsilon + 0{,}0455\,\varepsilon^2)} \qquad (15)$$

In conclusion the calculation of the amount of h is given for some cases: 1) For mixtures with an α between 1,0 and 1,2 equations (7), (15) and (14a) are used. The expression $\varepsilon = 1 - \sqrt{2/\alpha - 1}$ (17) is finally obtained. Formulas (16) and (17) make it possible to compute h. If $\alpha \longrightarrow 1$ we obtain Westhaver's equation. 2) For mixtures with an α considerably larger than 1,2 formulas (6), (15) and (14a) are used. Figure 1 shows the results of calculations and tests mentioned by reference 4. It may be concluded that the amount of α has an essential influence on h. A sufficiently exact agreement of the results of tests and calculations for the system $C_2H_5OH - H_2O$ makes the method suggested eligible for the determination of h in a laminar process with a high α value. There are 1 figure and 6 references, 3 of which are Soviet.

AUTHORS: Lyu Guan-Tszyun', Malyusov, V. A. SOV/2o-12o-1-41/63

TITLE: The Calculation of the Film Rectification Process (K raschetu protsessa plenochnoy rektifikatsii)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 12o, Nr 1, pp. 151 - 154 (USSR)

ABSTRACT: Vestkhaver (Westhaver)(References 1-3) set up an equation for the height of an equivalent theoretical plate for the rectification in columns with wettable walls. In the course of their derivation some assumptions were made which hold only for values of the coefficient α near 1. It was proved later that W's formula does not agree sufficiently well with test results in the separation of mixtures whose partition coefficient is more than 1 (Reference 4). Reference 4 therefore suggested another method of calculation for film rectification which is based on the determination of the unit of the mass exchange h_{og}. In this paper a more rigorous derivation of the equation for the determination of the height of the equivalent theoretical plate h is attempted, by basing on the assumption that the resistance against the mass exchange is concentrated in the vapor phase only. After complex

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The Determination of the Separation Coefficients of a Mixture of Dibutyl Phthalate and Dibutyl Azelate

SOV/76-32-10-25/39

at 155° $\frac{\alpha_m}{\alpha_p}$ = 1. Data by Williams (Ref 3) were used for plotting the curves; these data were obtained in evaporations in equilibrium in the apparatus of the Otmer type at 155°. There are 6 figures, 3 tables, and 5 references, 2 of which are Soviet.

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and not in equilibrium, in high-vacuum ($1 \cdot 10^{-4}$ torr). A tensiometer with "falling current" which supplies accurate data as mentioned by Hickmann and Trevoy (Ref 2) was used in the investigations with evaporation without equilibrium. The separation coefficients of the mixture (A)-(B) were determined at the temperatures 60,80, 100 and 110° and within a concentration range of 10 to 90 mol%(A). The coefficient decreases with the increase in temperature and an increase in the concentration of (A). An apparatus described by Hickmann and Trevoy (Ref 2) was used for the measurements in the evaporation in equilibrium. These experiments were carried out at 80, 100 and 120° at a concentration of 12,5 to 86 mol%(A). The same behaviour of the separation coefficient as in evaporations not in equilibrium was observed. A comparison of the coefficients of evaporation in equilibrium (α_p) with those not in equilibrium (α_m) showed that $\alpha_p < \alpha_m$ and that with an increase in temperature $\frac{\alpha_m}{\alpha_p} \longrightarrow 1$. It is assumed that

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AUTHORS: Malyusov, V. A., Malafeyev, N. A., Zhavoronkov, N. M.

SOV/76-32-10-25/39

TITLE: The Determination of the Separation Coefficients of a Mixture of Dibutyl Phthalate and Dibutyl Azelate (Opredeleniye koeffitsiyentov razdeleniya smesi dibutilftalat-dibutilazelaat pri isparenii v vysokom vakuume)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 10, pp 2403 - 2409 (USSR)

ABSTRACT: I.V.Aristova participated in the experimental part of this work. Aside from the paper by Hickmann and Trevoy (Khikman and Trevoy) (Refs 1,2) there are at present no reliable data on temperature coefficients in high-vacuum. Apart from the data given by Williams (Vil'yams)(Ref 3) for an evaporation in equilibrium at 155° no determinations of separation coefficients of the mixture dibutyl phthalate (A) and dibutyl azelate (B) as a function of the composition versus the temperature have been carried out. This was done in the present case under the conditions of an evaporation both in equilibrium

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not change along the column. When the components of the mixture differ greatly by their properties and the temperature is different according to the stages of the column the IMP is calculated according to the line $y^M = f(x,T)$ with two possibilities existing for the line projection. There are 10 figures, 3 tables, and 12 references, 3 of which are Soviet.

1. Towers (Chemistry)--Performance 2. Phthlates--Evaporation
3. Gases--Pressure 4. Mathematics

binary systems, di-2-ethylhexyl-phthalate - di-2-ethylhexyl sebacinate and dibutylphthalate - dibutylacelainate. The degree of efficiency was calculated according to the equations given and the dimensions of the various sized columns were found to be an important factor here. The rate of evaporation was calculated according to the formula of Knudsen and Langmyur (Ref 4). Based on the results obtained the authors mention that there exists no influence of the pressure of the residual gases on the degree of efficiency. Experiments carried out to investigate the rate of distillation (the formula by Knudsen and Langmyur was used) showed that within the temperature range from 88 to 110° the quantity $1 - \gamma$ practically remains constant and is about 0,78. At increased distillation temperatures the coefficient f must be introduced into the formula of Borrouz. The applicability of the equation of Carman (Karman)(Refs 8,12) is also mentioned. The calculation of the number of ideal molecular plates (IMP) is carried out with the isothermal line $y^M = \psi(x)$ being used in the place of the isobar $y^x = \varphi(x)$ in the graphical calculation at the y - x diagram when the temperature of the mixture does

AUTHORS: Malyusov, V. A., Umnik, N. N., Zhavoronkov, N. M. SOV/64-58-5-9/21

TITLE: The Investigation and Calculation of Multistage Columns for Molecular Distillation (Issledovaniye i raschet mnogostupenchatykh kolonn dlya molekulyarnoy distillyatsii)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 5, pp. 296 - 302 (USSR)

ABSTRACT: Although several constructional designs for the above mentioned columns exist only those suggested by Brewer, Madorsky et al.(Bryuyer, Madorskiy) (Refs 1,2) as well as that of the authors mentioned above have been seriously studied. In the present paper the influence exerted by the distillation temperature and the high pressure on the degree of distribution, and the rates of evaporation and distillation were investigated. In the construction of the columns the principle suggested by Madorsky, Bradt and Straans (Madorskiy, Bredt i Shtraus)(Ref 2) was employed. A diagram of the constructional elements as well as a schematic representation of the arrangement are given. The authors worked with 5 columns of different stage numbers and investigated two

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